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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Gerd Roland MEYER, et al. : Attorney Docket: 2001DE454

Serial No.: to be assigned :

Filed: June 22, 2004 :

For: Aqueous Plant-Protection Formulations

Transmittal Letter

Notification of Amendments Under PCT Article 34


Mail Stop: PCT
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Preliminary to the examination of the above-identified application, an Amendment was filed under Article 34 of the Patent Cooperation Treaty prior to the International Preliminary Examination. Please note that the attached pages 14 – 18 of the claims were filed with the European Patent Office. We enclose a copy of the above-mentioned pages for your convenience.

Applicant respectfully requests submission of these pages before examination of the application and before entry of the Preliminary Amendment.

Respectfully submitted,

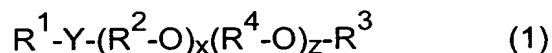

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WHAT IS CLAIMED IS:

1. An aqueous plant protection formulation comprising
 - i) at least one polymer which can be prepared by radical copolymerization of
 - A) acrylamidopropylmethylenesulfonic acid (AMPS) and/or its salts;
 - B) one or more macromonomers comprising
 - i) a terminal group which is capable of polymerizing and which is at least partially soluble in the reaction medium,
 - ii) a hydrophobic part which is hydrogen or a saturated or unsaturated, linear or branched, aliphatic, cycloaliphatic or aromatic (C₁-C₁₀₀)-hydrocarbon residue, and
 - iii) optionally a hydrophilic part based on polyalkylene oxides, and
 - C) optionally one or more other at least mono- or polyolefinically unsaturated oxygen-, nitrogen-, sulfur-, phosphorus-, chlorine- and/or fluorine-comprising comonomers,
 - ii) at least one pesticide and
 - iii) at least one agrochemical salt.
2. A plant protection formulation as claimed in claim 1, wherein the comonomer A) is the sodium salt and/or ammonium salt of acrylamidopropylmethylenesulfonic acid (AMPS).
3. A plant protection formulation as claimed in claim 1 and/or 2, wherein the macromonomers B) are those according to formula (1)



in which

R¹ is a vinyl, allyl, acryloyl, methacryloyl, seneciroyl or crotonyl residue;

R² and R⁴ are, independently of one another, (C₂-C₄)-alkylene;

x and z are, independently of one another, an integer between 0 and

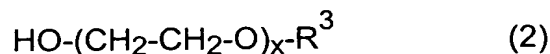
500, preferably with $x+z$ greater than or equal to 1;
 Y is O, S, PH or NH, preferably O; and
 R^3 is hydrogen or a saturated or unsaturated, linear or branched,
 aliphatic, cycloaliphatic or aromatic (C_1 - C_{100})-hydrocarbon
 residue, preferably (C_1 - C_{30})-hydrocarbon residue.

4. A plant protection formulation as claimed in claim 3, wherein
 R^1 is an acryloyl or methacryloyl residue;
 R^2 and R^4 are, independently of one another, C_2 -alkylene or C_3 -alkylene;
 10 x and z are, independently of one another, an integer between 0 and
 50, preferably with $x+z$ greater than or equal to 1;
 R^3 is an aliphatic (C_4 - C_{22})-alkyl or -alkenyl residue, preferably
 (C_{10} - C_{22})-alkyl or -alkenyl residue;
 a phenyl residue;
 15 a (C_1 - C_{22})-alkylphenyl residue, preferably sec-butyl- or
 n-butylphenyl residue;
 a poly((C_1 - C_{22})-alkyl)phenyl residue, preferably tris(sec-
 butyl)phenyl residue or tris(n-butyl)phenyl residue; or
 a polystyrylphenyl residue, preferably tristyrylphenyl residue.

20 5. A plant protection formulation as claimed in claim 4, wherein the R^3
 residue is a 2,4,6-tris(sec-butyl)phenyl residue or 2,4,6-tris(1-phenylethyl)-
 phenyl residue.

25 6. A plant protection formulation as claimed in claim 1, wherein the
 polymers can be prepared by radical copolymerization of
 A) acrylamidopropylmethylenesulfonic acid (AMPS), the sodium salt of
 acrylamidopropylmethylenesulfonic acid (AMPS) and/or the
 ammonium salt of acrylamidopropylmethylenesulfonic acid,
 30 preferably the ammonium salt of acrylamidopropylmethylenesulfonic
 acid (AMPS);
 B) one or more macromonomers chosen from the group of the esters
 formed from methacrylic acid or acrylic acid, preferably methacrylic
 acid, and compounds of the formula (2)

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in which x is a number between 0 and 50, preferably 1 and 50, particularly preferably 5 and 30, and R³ is a (C₁₀-C₂₂)-alkyl residue; and

- 5 C) optionally one or more comonomers chosen from the group consisting of acrylamide, vinylformamide, N-vinylmethacrylamide, sodium methallylsulfonate, hydroxyethyl methacrylate, acrylic acid, methacrylic acid, maleic anhydride, methacrylamide, vinyl acetate, N-vinylpyrrolidone, vinylphosphonic acid, styrene, styrenesulfonic acid (Na salt), t-butyl acrylate and methyl methacrylate.

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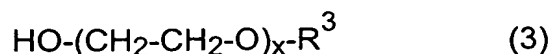
7. A plant protection formulation as claimed in at least one of claims 1 to 6, wherein the macromonomers B) are esters formed from acrylic acid or methacrylic acid and alkyl ethoxylates chosen from the group of the (C₁₀-C₁₈)-fatty alcohol polyglycol ethers with 8 EO units, C₁₁-oxo alcohol polyglycol ethers with 8 EO units, (C₁₂-C₁₄)-fatty alcohol polyglycol ethers with 7 EO units, (C₁₂-C₁₄)-fatty alcohol polyglycol ethers with 11 EO units, (C₁₆-C₁₈)-fatty alcohol polyglycol ethers with 8 EO units, (C₁₆-C₁₈)-fatty alcohol polyglycol ethers with 15 EO units, (C₁₆-C₁₈)-fatty alcohol polyglycol ethers with 11 EO units, (C₁₆-C₁₈)-fatty alcohol polyglycol ethers with 20 EO units, (C₁₆-C₁₈)-fatty alcohol polyglycol ethers with 25 EO units, (C₁₈-C₂₂)-fatty alcohol polyglycol ethers with 25 EO units, iso(C₁₆-C₁₈)-fatty alcohol polyglycol ethers with 25 EO units and/or C₂₂-fatty alcohol polyglycol ethers with 25 EO units.

- 25 8. A plant protection formulation as claimed in claim 1, wherein the polymers can be prepared by radical copolymerization of

- A) acrylamidopropylmethylenesulfonic acid (AMPS), the sodium salt of acrylamidopropylmethylenesulfonic acid (AMPS) and/or the ammonium salt of acrylamidopropylmethylenesulfonic acid, preferably the ammonium salt of acrylamidopropylmethylenesulfonic acid (AMPS);

- 30 B) one or more macromonomers chosen from the group of the esters formed from methacrylic acid or acrylic acid, preferably methacrylic acid, and compounds of the formula (3)

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in which

x is a number between 0 and 50, preferably 1 and 50, particularly preferably 5 and 30, and

R^3 is a poly((C₁-C₂₂)-alkyl)phenyl residue, preferably tris(sec-butyl)phenyl residue or tris(n-butyl)phenyl residue, particularly preferably 2,4,6-tris(sec-butyl)phenyl residue, or a tris(styryl)phenyl residue, preferably 2,4,6-tris(1-phenylethyl)phenyl residue; and

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C) optionally one or more comonomers chosen from the group consisting of acrylamide, vinylformamide, N-vinylmethacetamide, sodium methallylsulfonate, hydroxyethyl methacrylate, acrylic acid, methacrylic acid, maleic anhydride, methacrylamide, vinyl acetate, N-vinylpyrrolidone, vinylphosphonic acid, styrene, styrenesulfonic acid (Na salt), t-butyl acrylate and methyl methacrylate.

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9. A plant protection formulation as claimed in at least one of claims 1 to 8, wherein the proportion of macromonomers B) in the polymers is 50.1 to 99.9% by weight, preferably 70 to 95% by weight, particularly preferably 80 to 94% by weight.

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10. A plant protection formulation as claimed in at least one of claims 1 to 8, wherein the proportion of macromonomers B) in the polymers is 0.1 to 50% by weight, preferably 5 to 25% by weight, particularly preferably 6 to 20% by weight.

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11. A plant protection formulation as claimed in at least one of claims 1 to 9, wherein the number-average molecular weight of the polymers is 1000 to 20 000 000 g/mol, preferably 20 000 to 5 000 000 g/mol, particularly preferably 50 000 to 1 500 000 g/mol.

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12. A plant protection formulation as claimed in at least one of claims 1 to 11, wherein the polymers are crosslinked.

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13. A plant protection formulation as claimed in at least one of claims 1 to 12, the copolymerization being a precipitation polymerization, preferably in tert-butanol.

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14. A plant protection formulation as claimed in at least one of claims 1 to 13, which comprises, based on the ready-mix formulation, 0.01 to 10% by weight, preferably 0.01 to 5% by weight, of polymers.

15. A plant protection formulation as claimed in at least one of claims 1 to 14, wherein the water content, based on the ready-mix formulation, is 5 to 60% by weight, preferably 5 to 50% by weight, particularly preferably 5 to 30% by weight.
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16. A plant protection formulation as claimed in at least one of claims 1 to 15, wherein the solubility in water of the pesticides is greater than 800 g/l, preferably greater than 1000 g/l.
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17. A plant protection formulation as claimed in at least one of claims 1 to 16, wherein the pesticides are ionogenic pesticides.
18. A plant protection formulation as claimed in at least one of claims 1 to 17, wherein the pesticides are glyphosate, sulphosate and/or glufosinate.
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19. A plant protection formulation as claimed in at least one of claims 1 to 18, wherein the proportion of pesticides, based on the ready-mix formulation, is 5 to 85% by weight, preferably 25 to 60% by weight.
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20. A plant protection formulation as claimed in at least one of claims 1 to 19, wherein the agrochemical salts are inorganic fertilizers, preferably ammonium salts and/or phosphates.
21. A plant protection formulation as claimed in at least one of claims 1 to 20, wherein the proportion of agrochemical salts, based on the ready-mix formulation, is 5 to 85% by weight, preferably 25 to 60% by weight.
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22. A plant protection formulation as claimed in at least one of claims 1 to 21, which is free from organic solvents.
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23. A plant protection formulation as claimed in at least one of claims 1 to 22, which is a soluble liquid (SL) or a soluble concentrate.